

TWO NEW SPECIES OF ISOCOMA (COMPOSITAE-ASTEREAE) FROM NORTH CENTRAL MEXICO

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ISOCOMA halophytica Turner sp. nov.

Frutex ad 1 m altus; caudex distincte lignosus fide collectorum; caules fide collectorum decumbentes fragiles dense pubentes pilis brevibus ubi juvenes demum glabrescentes. Folia integra uniformiter lineario-oblongata dense pubentia pilis brevibus plerumque 1.5—2.5 cm longa 1.5—2.0 (—3.0) mm lata apice mucronibus albis.

Caules secundarii 10—25 cm longi 5—8-capitulati capitulis dense confertis 15—18-floris. Involucra subturbinata 4—5 mm alta 4—5 mm lata 2—3-seriata. Exteriora phyllaria dense pubentia. Interiora phyllaria scariosa apicibus latis fuscatis ciliatis. Receptaculum planum alveolatum radiati flores nulli. Disci flores flavi corollis 7—8 mm longis tubulis 4—5 mm longis faucibus distincte obliquiis 2.0—2.5 mm longis lobulis acutis 1.0—1.5 mm longis. Styli rami ca 1 mm longi appendiculis dense pubentibus acutis. Achenia ca 2 mm longa dense pubentia pilis antrorsis plerumque adpressis. Pappus 50—60-setosus setis 3—5 mm longis.

Shrub up to 3 ft tall, the stems (according to label data) decumbent, arising from a decidedly woody rootstock. Stems brittle, at first densely short pubescent, becoming glabrate with age. Leaves entire, uniformly linear-oblongate, densely short pubescent, mostly 1.5—2.5 cm long, 1.5—2.0(3.0) mm wide, terminated by a small, white mucro. Heads 5—8, densely clustered at the apexes of secondary stems, the latter 10—25 cm long. Involucres subturbinate, 4—5 mm high, 4—5 mm broad. Bracts imbricated in about 2—3 lengths, the outer row densely pubescent, the inner scarious with broad, darkened, ciliate apices. Receptacle flat, alveolate. Ray flowers absent. Disc florets yellow, 15—18; corollas 7—8 mm long, tube 4—5 mm long, throat decidedly oblique, 2.0—2.5 mm long, the lobes 1.0—1.5 mm long, acute. Style branches about 1 mm long, the appendage densely pubescent, acute. Achenes ca 2 mm long, densely pubescent with mostly appressed, ascending hairs. Pappus of ca 50—60 bristles, 3—5 mm long.

MEXICO. Coahuila: Along road from San Vicente SW (about 7 mi) to southern end of Laguna de Jaco. "Rocky saline soil at south end of lake, stems decumbent, up to 3 ft tall." 9 Sep 1940. *I. M. Johnston & C. H. Muller 1090*. (Holotype, MICH).

Isocoma halophytica has non-fasciculate, entire leaves, deeply cleft corollas and, except for the former, would most readily key to *I. pluriflora* (= *T. wrightii*) in Hall's (1928) treatment of the genus. However, it is

readily distinguished from that species by its densely pubescent, gray foliage, apparently sprawling habit, and short, broad involucres. The taxon is known only from the locality concerned where, I suspect, it occurs in gypseous-saline soils.

ISOCOMA gypsophilia Turner sp. nov.

Herbae perennes 5—10 cm altae caulibus foliisque recumbentibus saepe eleganter tegetiformes 10—40 cm diametro laxae vel crebrae succulentae. Caules sparse vel dense pubentes pilis ascendentibus crispatis albis. Folia principalia 0.5—1.0 cm longa spathulata vel oblanceolata conspicuo glandulo-punctata sparse pubentia pilis ascendentibus crispatis dense conferta imbricata caulem occultantia plerumque 3—4-dentata apicem versus dentibus distincte albomucronatis. Rami secundarii apice pedunculiformes uniflori rare biflori 2—10 mm longi. Capitula 30—40-flora. Involucra late turbinate vel hemisphaerica 7—9 mm alta 6—9 mm lata 4—5-seriata. Phyllaria ordinate imbricata viridia conspicuo glandulo-punctata ciliata apicem versus. Receptaculum planum conspicuo setaceo-alveolatum. Radiati flores nulli. Disci flores flavi corollis ca 5—6 mm longis tubulis 3—4 mm longis faucibus 2 mm longis lobulis ca 0.5 mm longis. Styli rami ca 1 mm longi appendiculis ovatis dense papillatis. Achenia ca 2 mm longa dense pubentia pilis adpressis argenteis. Pappus 30—40-setosus setis 3—5 mm longis. Chromosomatum numerus $n = 6$.

Perennial herb 5—10 cm tall, the stems and foliage more or less recumbent, often forming an attractive, loose to compact, succulent, dark green mat, 10 to 40 cm across. Stems sparsely to densely pubescent with crisp, white hairs; principal leaves, 0.5—1.0 cm long, spatulate to oblanceolate, densely crowded and overlapping so as to obscure the stem, mostly 3—4 dentate near the apex, each of the denticulations terminated by a distinct, white mucro, the blades conspicuously glandular-punctate and sparsely covered with a loose, crispy, crinkled pubescence. Heads single (or rarely double) on peduncles 2—10 mm long at the apices of secondary branches. Involucres broadly turbinate to hemispheric, 7—9 mm high, 6—9 mm broad. Bracts regularly imbricated in about 4-5 lengths, green and conspicuously glandular-punctate above, the margins ciliate, especially near the apices. Receptacle flat, conspicuously bristly alveolate. Ray flowers absent. Disc florets yellow, 30—40; corollas ca 5—6 mm long, tube 3—4 mm long, throat 2 mm long, the lobes ca 0.5 mm long; style branches about 1 mm long, the ovate appendages densely papillate. Achenes ca 2 mm long, densely pubescent with silvery, appressed hairs; pappus of 30 to 40 setae, 3—5 mm long. Chromosome number, $n = 6$.

MEXICO. Nuevo Leon: 15 mi S of San Roberto Junction. Growing on white, gypseous soils on what appears to be saline flats along the roadside. 26 Sep 1970 B. L. Turner 6213. (Holotype, TEX; isotypes to be distributed).

The taxon is apparently most closely related to *Isocoma veneta* (HBK) Greene, a widespread species of central and northern Mexico where it occurs in mostly rocky limestone soils, or less frequently in mixed gypseous,

alluvial soils, as noted below. On the former soils it apparently assumes a more robust form; the latter sites characteristically producing a low, suffrutescent sub-shrub about 30—40 cm tall. Both of these forms grow in the vicinity of the type locality and both have diploid counts of $n = 6$ (Turner & Crutchfield 6313, robust form; Turner & Crutchfield 6289, small form) as does *I. gypsophila*. The latter, however, grows only in gypsum, forming open stands with such endemic gypsophilous species as *Frankenia gypsophila*, *Sartwellia mexicana*, *Atriplex reptans* and a remarkable, as yet unpublished, new genus of the Compositae, tribe Tagetinae (Turner, in press).

Isocoma gypsophila is readily recognized from all other species of the genus by its habit; small, overlapping leaves; predominantly single-headed flowering stems; and broad involucre possessing conspicuously punctate involucre bracts. The species was found growing with or near *I. veneta* (Turner & Crutchfield 6303) which, while relatively small at this locality, has a decidedly woody, 3—5 headed, glutinous stem and subturbinate involucre, the latter composed of only faintly punctate, eciliate involucre bracts. Intermediates between the two taxa were not seen in the field, in spite of a search for these in a second visit to the site. (In my initial visit I was unaware that the material here described as *I. gypsophila* might even be a species of *Isocoma*!)

The holotype consists of 5 plants. On an additional sheet I have included a plant of *I. veneta* (found along the roadside at the type locality) along with isotypic material of *I. gypsophila*. I follow Shinnars (1950), M. C. Johnston (1967) and perhaps others in recognizing the natural group *Isocoma* as a genus, believing Hall's treatment of the taxon as part of *Haplopappus* to be highly artificial, in spite of his claims to the contrary.

I am grateful to Dr. M. C. Johnston for the Latin descriptions. Field work was supported, in part, by NSF grant 5548X.

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